



TEACHING METHODS FOR ADVANCED MATHEMATICS

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ABSTRACT

Teaching methods refer to the method of work used to complete the teaching task. It includes teachers' teaching methods and students' learning methods. In this paper, the some teaching methods are introduced and the advantages and disadvantages are analyzed, and a new teaching method for advanced mathematics is proposed, which can improve the education method.

KEYWORDS: teaching method, advanced mathematics, improvement

1. INTRODUCTION:

Advanced mathematics is a very important course for college students [1-4]. The teaching methods should be fully understood as the follows [5-7].

- It is bilateral activities of teaching and learning and their combination.
- It is service for completing the teaching task and achieving the purpose of teaching.
- It includes a variety of specific ways and means.

New ideas are introduced in small, logical steps and continuing practice reinforces important concepts, in contrast to the "learn it and forget it" approach of some other programs

As a math teacher, there should be aware of some major mathematics teaching methods systematically and comprehensively. In this way, according to the specific teaching content, teaching object and different disciplines, math teachers can reasonably choose different teaching methods [8], and they can explore and create some new methods on the basis of the original teaching methods [9].

2. TRADITIONAL MATHEMATICS TEACHING METHODS:

The traditional mathematics teaching methods refer to a variety of teaching methods which is still effective and which is formed from the long-term mathematics teaching practice. The main way is teaching face to face.

Teaching face to face is a kind of teaching method which is systematically described to the teaching content by the teacher. The explanation method has the following three features. First, teachers play a leading role in this method; then, the basic tool for transferring knowledge is oral language; third, students are the receivers of knowledge and information.

Teaching face to face has five elements as follows.

1. Scientificity:

First of all, the content of the teaching face to face should be accurate, it means that the concept of teaching face to face should be clear and to concern the concept and extension of the terms' concepts. Second, the thought and method of teaching face to face should be clear. Third, when the proposition is stated, the process of proof and reasoning should be logical.

2. Systemic:

To teaching face to face, it should be clearly, it should be highlighted the important points. In order to make the teaching content more systematic, we should pay attention to students understand the law of understanding the problem.

3. Enlightening:

The teacher's explanation must arouse the students desire to learn and to stimulate students thinking activities. Explanatory education is not equal to "spoon-fed" and "chalk talk". Teachers should be good at asking questions, creating problem situations, and stimulating questions, so that students and teachers actively cooperate with the initiative to participate in learning activities.

4. Artistry:

Teaching face to face should be clear, concise diction, vivid, it try to be in simple terms and with rigor. To speak, the volume of the explanation cannot be too loud or too low, the speed should be appropriate, cadence, full of fun.

5. Emotional:

In order to prevent students from producing a sense of boring, the best way to improve the teaching effectiveness is to inject emotions and render the atmosphere at the time of teaching face to face.

The advantages of teaching face to face:

On the one hand, teaching face to face can keep the teacher being dominant in the teaching, teachers can easily control the teaching time and progress, and teachers can make the content coherence. On the other hand, teaching face to face is easy to focus on what is in its control, break through the difficulties, so that it can help teachers save their teaching time. However, every coin has two sides.

The disadvantage of teaching face to face:

Because of the low participation of the students in teaching, teaching face to face is not conducive to cultivating capacity. It makes students accept knowledge passively. It is only for intermediate-level students.

3. IMPROVEMENTS:

According to the teaching content and student's actual situation, the teachers raise questions and guide students talk to arouse their interest to get acquire more knowledge, that is the discussion.

The main feature of the discussion is different from the traditional teaching methods, the former is the one-way information exchange, talking is the two-way information exchange. In the conversation, teachers and students can get feedback, teachers can improve the quality of teaching based on these feedback. The talking can improve students' expression ability.

The talking has a few basic requirements for students. Positive thinking, active participation, be brave in discovery and responded positively are equally important.

Similarly, there are a few requests for teachers.

Teachers should ask questions for a purpose and expected their answers. Teachers should do some preparatory work for the lesson, for example, an outline of the question, talking time, and some conditions which can guide students to answer questions correctly also should be considered into the talking.

Teachers ask moderate difficulty questions in the talking especially for some difficult students. In order to make it easier for most students to understand, the talking follow to step by step, from the shallow to the deep, from easy to difficult principles. The questions raised should be clear and understandable for the students.

Teachers should be good at guiding students to explore and inspiring them to find. On the content of the conversation, teachers should guide students to think actively, step by step, and gradually get conclusions.

To achieve teachings goals, teachers should cater for common and individual characteristics and try to create an atmosphere in which students can feel motivated. In the conversation, teachers consider the difference between good grades and poor grades and encourage students to answer questions boldly.

When the conversation completed, we should sum up with each other in time, and point out the advantages and disadvantages of talking.

4. CONCLUSION:

Advanced mathematics plays an important role in the whole study process. In

order to improve the teaching effectiveness, teachers should improve the teaching methods. In this paper, the ways to improve the teaching effectiveness is discussed. These method is practical for math teachers.

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